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DISTRIBUTION OF COPEPODS IN THE NORTHERN BERING SEA AND THE CHUKCHI SEA IN OCTOBER 1988 (EXTENDED ABSTRACT)

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Zooplankton investigation was carried out in the northern Bering Sea and the Chukchi Sea on the cruise of ISHTAR Leg IV of the R/V T. WASHINGTON (Scripps Institution of Oceanography) from 3 to 18 October 1988. Vertical tows of a NORPAC net (0.35 mm mesh openings) from near bottom to the surface were made at 16 stations (Fig. 1). Water temperature and salinity in the water column at each station showed little vertical change in the northern Bering Sea and Bering Strait other than Stn. 17 where thermocline and halocline were observed at around 20 m-depth. In the Chukchi Sea, however, weak thermocline and halocline were observed from 20 to 40 m-depth. Water temperature and salinity in the near surface and bottom layers are shown in Fig. 2. Compared with the Chukchi Sea Water, the northern Bering Sea Water was vertically well mixed at each station other than the Anadyr Water in which Stn. 17 is located.

Areal distributions of total zooplankton and copepods are shown in Fig. 3. Copepods were dominant at all stations ranging from 98.7% (Stn. 121) to 37.7% (Stn. 23) of the total number of zooplankton (mean=81.3%). Other than copepods, hydromedusae, chaetognaths, cirripede larvae and appendicularians were major zooplankton groups in this area. Among copepods, *Pseudocalanus* was dominant at all stations ranging from 32.6% (Stn. 17) to 92.0% (Stn. 116) of the total number of copepods (mean=70.4%). Among the species of *Pseudocalanus*, *P. minutus* and *P. mimus* were observed in this area, taking up 62% and 38% of the *Pseudocalanus*, respectively. *Eucalanus bungii*, *Metridia pacifica*, *Calanus marshallae* and *Acartia omorii* were subdominant to *Pseudocalanus* in the Anadyr Strait (Stn. 17), in the north of St. Lawrence Island (Stns. 31 and 121), in the central part of the Bering Strait (Stns. 119 and 120) and in the Alaskan side of the Bering Strait (Stn. 115), respectively (Fig. 4).

Three groups of copepods were recognized on the basis of their distributional patterns. The copepods of the first group were distributed mainly in the north of St. Lawrence Island and/or in the Anadyr Strait: *Neocalanus flemingeri*, *E. bungii*, *Pseudocalanus* spp., *Scolecithricella minor*, *Centropages abdominalis*, *M. pacifica* and *Acartia tumida*. The second group consisted of the species distributed mainly at the eastern-

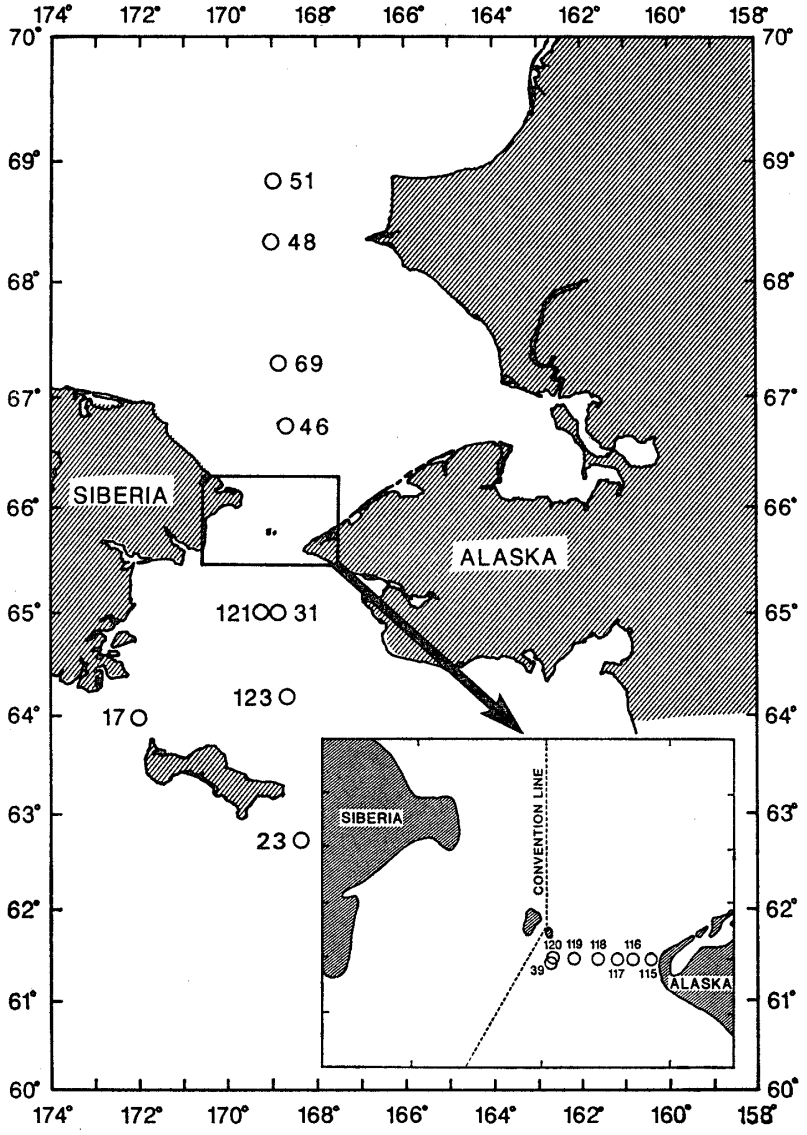

Fig. 1. Location of sampling stations in the northern Bering Sea and the Chukchi Sea.

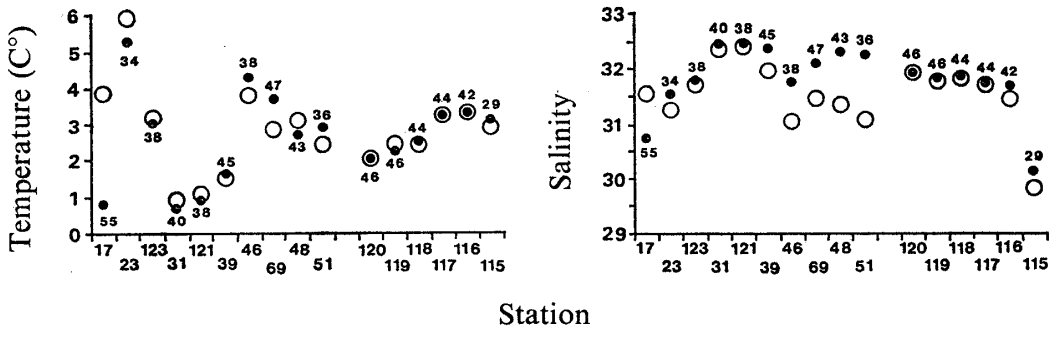

Fig. 2. Temperature (left) and salinity (right) in the near surface (open circle) and bottom layer (filled circle). The number around filled circle shows bottom depth in meter.

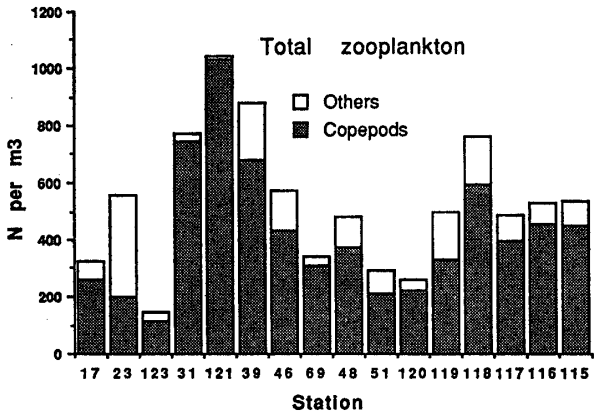

Fig. 3. Areal distribution of zooplankton. Copepods and other zooplankton are shown by shaded and open bars, respectively.

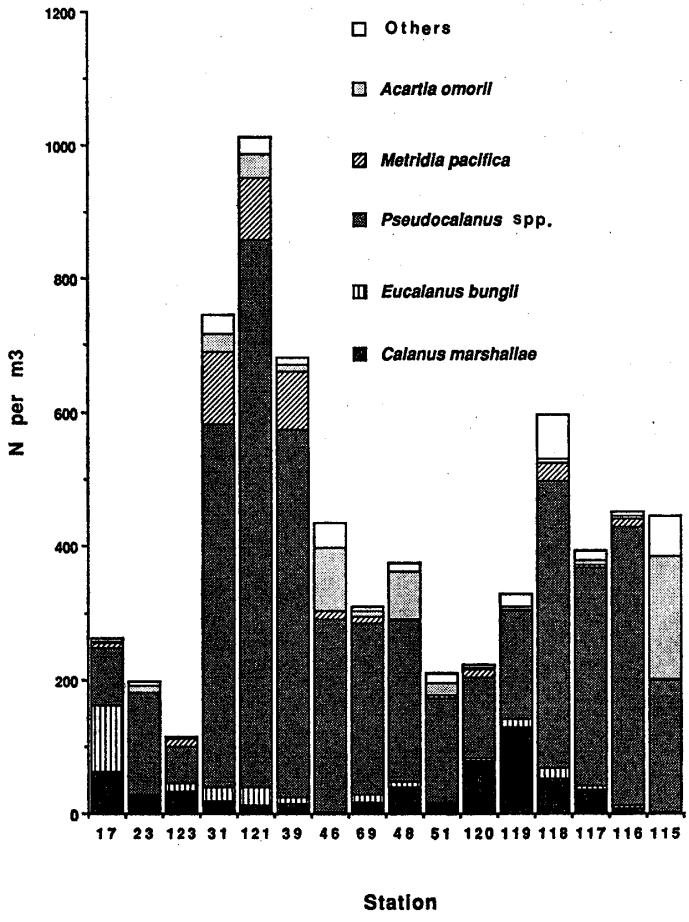

Fig. 4. Distribution of major copepods. Pseudocalanus minutus *and* P. mimus *are included in the* Pseudocalanus *spp.*

most stations of the Bering Strait: *Paracalanus parvus*, *Eurytemora herdmani*, *Epilabidocera longipedata*, *A. omorii* and *Tortanus discaudatus*. The third group consisted of the species observed mainly in the central Bering Strait: *C. marshallae* and *Oithona* spp.

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